

MULTILEVEL PARTICLE-PARTITION OF UNITY METHODS

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We will give an update of our recent work on the Particle–Partition of Unity Method (PUM) [1, 2, 3, 4, 5, 6]. Many issues involved with meshfree Galerkin discretization techniques like the numerical integration, the treatment of essential boundary conditions, or the efficient multilevel solution of the arising linear system have been overcome (at least for a large part) within the past years for the PUM.

In this talk we give an overview of the Partition of Unity Method for elliptic partial differential equations (PDE) and the parallel multilevel solution of the arising linear systems. We consider scalar problems as well as systems of PDE.

References

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